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Current Developments in

THE FARM REAL ESTATE MARKET

MARCH - JULY 1960

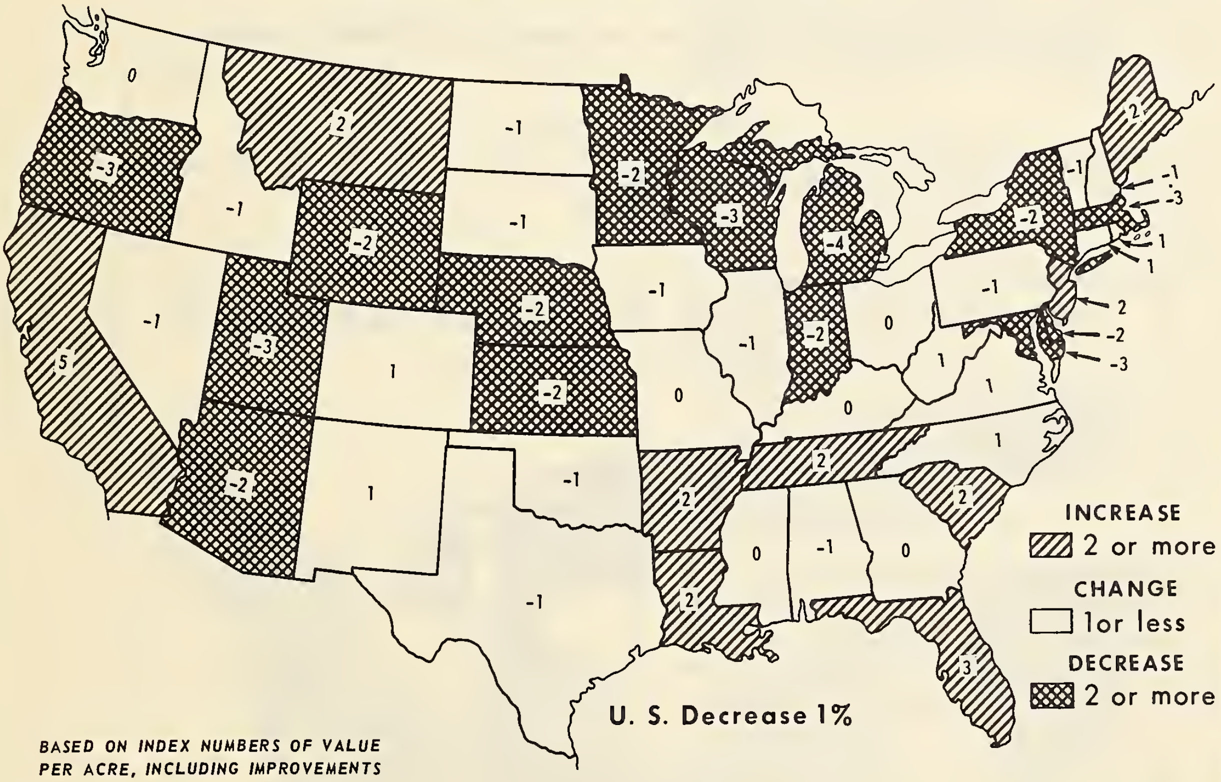
Agricultural Research Service
UNITED STATES DEPARTMENT OF AGRICULTURE

ARS 43-133 (CD-56)

OCTOBER 1960

CHANGE IN DOLLAR VALUE OF FARMLAND

Percentages, March 1960 to July 1960



BASED ON INDEX NUMBERS OF VALUE PER ACRE, INCLUDING IMPROVEMENTS

U. S. DEPARTMENT OF AGRICULTURE

NEG. 60(8)-2965 AGRICULTURAL RESEARCH SERVICE

Farm real estate values remained essentially unchanged in nearly half the States in the 4 months ended July 1, 1960. The July index was 1 percent above a year earlier. However, the national index was down to 172 (1947-49 = 100), 1 index point or 0.6 percent below the March 1 level. A few States showed further small increases in the March to July period, but except in California and Florida, these increases did not exceed 2 percent.

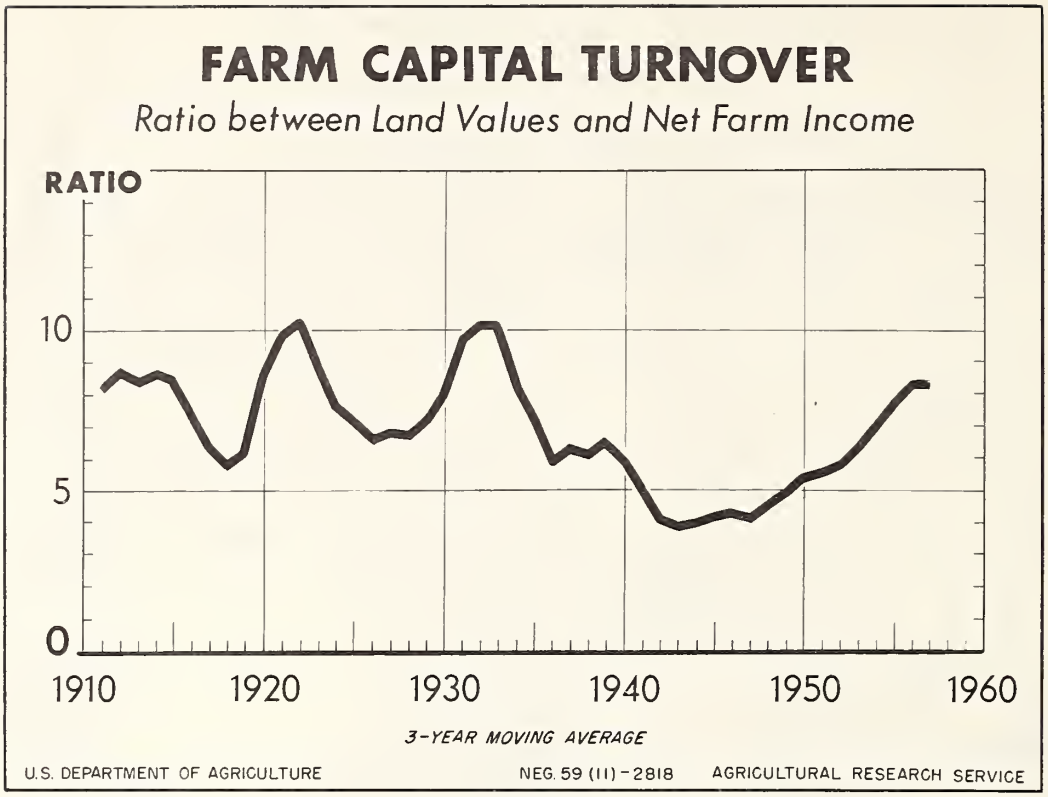


Figure 1

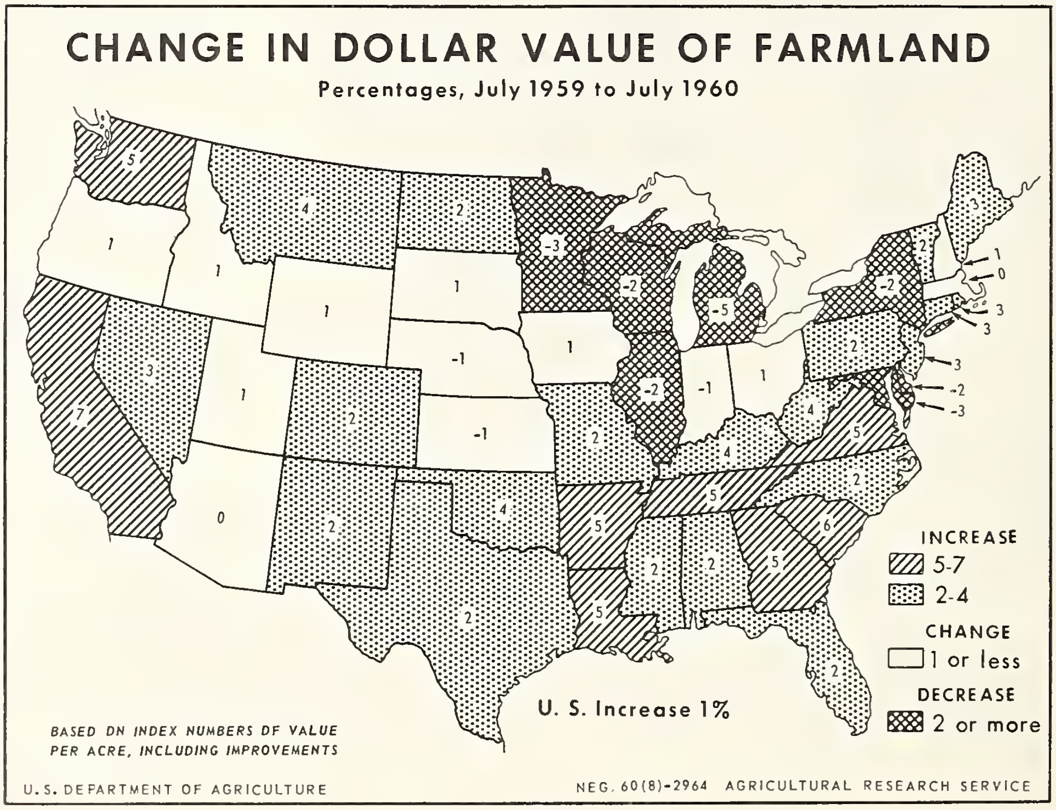

CHANGE IN DOLLAR VALUE OF FARMLAND
Percentages, July 1959 to July 1960
INCREASE
5-7
2-4
CHANGE
1 or less
DECREASE
2 or more
U. S. Increase 1%
BASED ON INDEX NUMBERS OF VALUE PER ACRE, INCLUDING IMPROVEMENTS
U.S. DEPARTMENT OF AGRICULTURE
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Figure 2

CURRENT DEVELOPMENTS IN THE FARM REAL ESTATE MARKET

March - July 1960

Approved by the Outlook and Situation Board September 22, 1960

SUMMARY

Market values of farm real estate remained essentially unchanged in about half the States in the 4 months ended July 1, 1960. At 172 (1947-49 = 100), the index was 1 percent above a year earlier. However, declines of 2 percent or more in 14 States were sufficient to reduce the national index by 1 point (0.6 percent) from the March level. The indexes for 11 States reached new peaks this July, with increases of 5 to 6 percent for the year. Largest declines, averaging about 3 percent, occurred in Michigan, Wisconsin, and Minnesota.

The total market value of farm real estate was estimated at $128.8 billion, or $111.24 per acre, on July 1, 1960. This was $300 million (0.2 percent) less than the value on March 1, but $2.2 billion more than on July 1, 1959.

The leveling off in market values in the last year is probably a readjustment in the unusual relationship that has developed since 1954 between market values and farm income. Values increased by a third in a period when net income changed very little. As a result, the price of farm real estate is currently about 9.7 times net income per acre, whereas in 1950-54, the ratio was 6.0, and in 1935-39, 6.2.

Active farmers made 63 percent of all purchases of farm real estate in 1959-60, a slightly higher proportion than in the previous year. Tenants continued to decline in relative importance as buyers, but owner-operators bought a higher proportion. Nonfarmers accounted for about a third of all purchases, slightly less than in the 4 previous years.

Additional lands acquired by farmers for enlargement of their farms have become the dominant type of land transfer in major areas of the country. In 1959-60, 45 percent of all transfers were for this purpose, compared with 42 percent in 1958-59 and 26 percent in 1950-54. In the Corn Belt and wheat areas, more than half of all land transfers were for purposes of farm enlargement.

As in the previous 4 years, two-thirds of the purchases in 1959-60 were financed with some form of credit. The proportion of all transfers financed by land contracts has doubled in the last 10 years, and in 1959-60, they were used in a fourth of all transfers. Downpayments on purchases made under contract are normally about half those required with conventional mortgage financing, and the seller can realize tax savings on capital gains.

The average indebtedness incurred in land purchases has crept slowly upward in recent years, partly as a result of the wider use of land contracts. In 1959-60, the average debt was 65 percent of the purchase price. Interest

rates charged by life insurance companies and Federal land banks on farm mortgages have increased to 6 percent for most loans made currently. Less than a third of the new mortgage loans committed by life insurance companies in the first half of 1960 were for the purpose of financing the purchase of farm real estate. About half were for refinancing existing mortgages or other indebtedness.

THE FARM REAL ESTATE MARKET IN MID-1960

Since last fall, divergent trends in land prices have developed among the various regions, replacing the pervasive upward trend that had characterized the market for the last few years. Small declines replaced the small gains that were still apparent from November 1959 to March 1960. These declines were sufficient to tip the national average down fractionally for the first time since 1952. The national index of 172 (1947-49=100) for July 1, 1960, was down only 1 index point (0.6 percent) from the record peak in March but was still 1 percent above a year earlier. The July 1960 indexes for 20 States were the same as, or above, the levels reached in 1959 or early 1960. For the 11 States at new peaks this July, the further gains averaged about 2 percent. For the 28 States with a July 1960 index below their previous peaks, the typical decline was 2 or 3 percent. Most of these States were in the central part of the country and along the eastern seaboard.

Price changes in the year ended July 1, 1960, were more mixed than in previous 12-month periods. Eight States, most of which were in the Southeast, showed increases of 5 to 6 percent, nearly as large as those occurring in the comparable period a year earlier. Increases in 20 other States ranged between 2 and 4 percent. However, values declined 2 percent or more in 7 States, with the largest dips in Michigan, Wisconsin, and Minnesota (table 1).

In general, there were few indications at midyear of any significant change in supply or demand in the farm real estate market. Activity is normally at a seasonal low, and in many localities, the number of sales is not sufficient to establish a clear indication of the trend in prices. Asking prices tend to hold to the level of previous months, while prospective buyers are inclined to delay decisions until harvest prospects are more certain.

Demand by established farmers for additional land near their present farms continues to underpin the market for land in many commercial farming areas. This type of demand seems to be relatively independent of short-run trends in farm income, as such buyers are more frequently the larger farmers who have cash reserves or a strong equity position for additional credit. Purely investment demand for farmland slackened last spring because of the higher rates of return obtainable from alternative investments. Apparently, interest in farmland for nonfarm uses continues to bolster the market in Florida and southern California, but values in other States having large metropolitan areas show less evidence of such support than in previous years.

There were no new developments in the agricultural situation as of midyear to account for the recent slippage in land values. Crop prospects

Table 1.- Percentage change in index of average value of farm real estate per acre, by farm production regions, selected periods, 1958-60

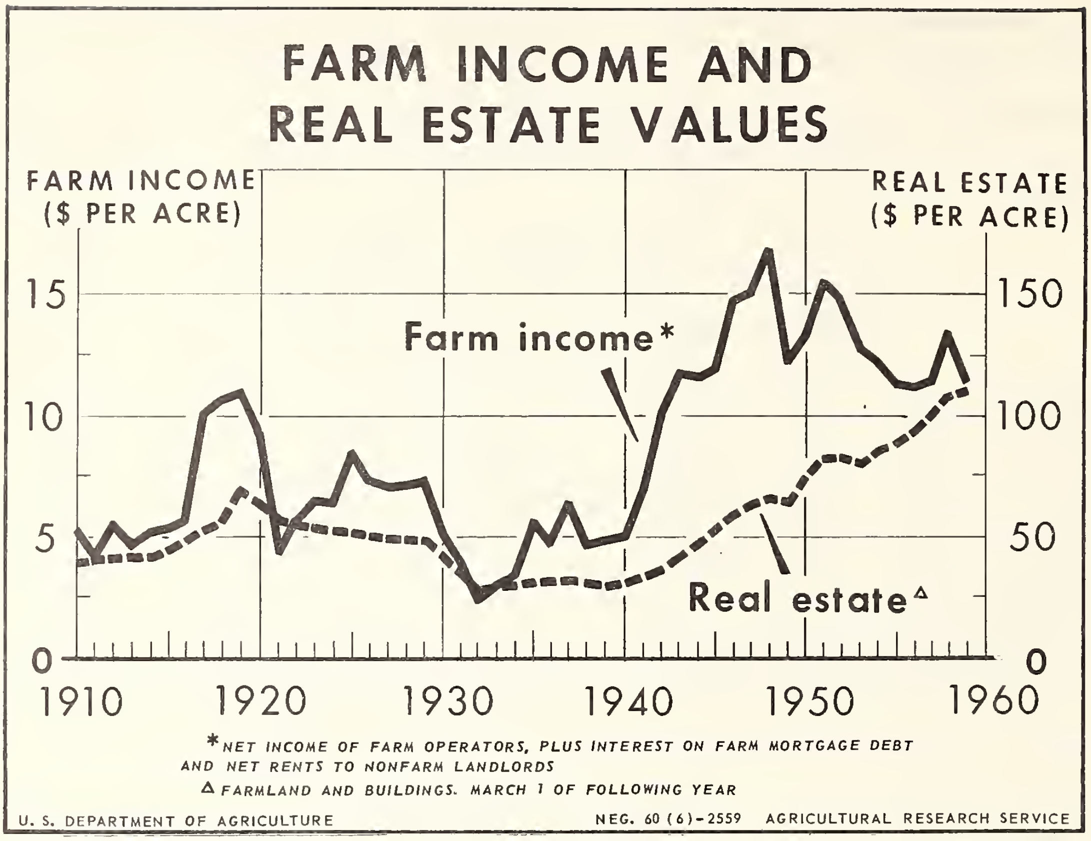
Region	Change during year ending July-			Change during 4 months ending July-		
	1958	1959	1960	1958	1959	1960
	Percent	Percent	Percent	Percent	Percent	Percent
Northeast----------	6	7	1	3	2	-1
Corn Belt-----------	4	5	0	2	1	-1
Lake States---------	5	7	-4	2	2	-3
Appalachian---------	6	6	3	3	1	1
Southeast-----------	9	11	3	3	2	1
Delta States--------	6	1/ 7	4	2	1/1	1
Southern Plains-----	6	6	2	2	1	-1
Northern Plains-----	8	5	0	3	0	-2
Mountain------------	6	1/ 7	2	2	3	0
Pacific-------------	7	8	6	3	1/4	3
United States-----	5	1/ 7	1	2	1/1	-1

1/ Revised.

were excellent, and total farm output is expected to exceed the two previous record years. Although farm income in 1959 was down from 1958, income in 1960 is expected to be about the same as in 1959. Cash receipts from farm marketings in the first 6 months of 1960 were only 1 percent below the same period of 1959. Prices received for all crops in mid-July averaged the same as a year earlier, but prices of livestock and livestock products were 2 percent lower.

The recent slackening in inflationary pressures throughout the economy may be the major factor initiating the current readjustment in the relationship that has developed between market values of farm real estate and net farm income since 1954 (fig. 3). With net farm income in 1959 and 1960 averaging about $11.50 per acre, market values ($111 per acre) were 9.7 times net income, the highest ratio since the early thirties. Since 1954, values have increased by a third, while net income per acre has changed very little (except in 1958). In 1950-54, values averaged 6.0 times annual net income, and in 1935-39, the ratio was 6.2.

Computed in this way, the relationship between net farm income and market values of farm real estate makes no allowance for returns to operator and family labor or to non-real-estate capital. If these factors were to receive a return at prevailing market rates (hired wage rates for unpaid labor and interest on non-real-estate capital), the net return remaining to the investment in farmland and service buildings would be reduced to about $3 per acre. Thus, farm real estate is currently priced at about 32 times net



*NET INCOME OF FARM OPERATORS, PLUS INTEREST ON FARM MORTGAGE DEBT AND NET RENTS TO NONFARM LANDLORDS

△ FARMLAND AND BUILDINGS. MARCH 1 OF FOLLOWING YEAR

U. S. DEPARTMENT OF AGRICULTURE NEG. 60 (6)-2559 AGRICULTURAL RESEARCH SERVICE

Figure 3

earnings, or a rate of return of about 3 percent on current market values. Repayment of debts incurred to buy land at present prices, particularly when downpayments are low, will require superior management or sources of income in addition to those realized from the land purchased.

Rising market prices of farm real estate, together with the increase in size of farm, have raised total investment per farm to record levels. Production assets (land, service buildings, machinery, livestock, feed crop inventories, and working capital) averaged about $34,500 per farm in 1960. Real estate accounted for 73 percent of this total, compared with 66 percent in 1950 when total investment per farm was only about half as large. In 1960, about $13 of productive assets were associated with $1 of net farm income, compared with about $6 in 1947-49, and $9.50 in 1953-55.

Preliminary reports from the 1959 Census of Agriculture further document the upward trend in acreage per farm which, together with the rise in values per acre since 1954,has increased the average value per farm by 50 percent or more in most of the 21 States for which summaries are available (table 2). In Illinois, for example, the average value of farmland and buildings in the fall of 1959 was $319 per acre, up 39 percent from 1954, and average value per farm was up 57 percent. Most of the Mountain States reporting show even larger increases per acre and per farm. Some further increase is shown in acreage of land in farms in these States, whereas States in the eastern half of the country show slightly smaller total acreages in farms. The decline in acreage in farms is particularly large in the New England States, continuing a long-time downward trend.

Table 2.- Average value of farm real estate per acre and per farm, 1959 Census of Agriculture, and percentage change from 1954 census, selected States 1/

State	1959 census		Percentage change from 1954 census	
	Average value-		Average value-	
	Per acre	Per farm	Per acre	Per farm
	Dollars	Dollars	Percent	Percent
Maine	82.93	14,620	37	57
New Hampshire	106.29	18,013	28	56
Vermont	80.34	19,606	31	56
Massachusetts	304.55	30,037	40	82
Rhode Island	418.34	32,433	35	49
Connecticut	421.05	43,387	46	82
New York	143.60	23,128	34	52
Wisconsin	131.78	21,288	31	44
Minnesota	154.81	33,373	47	58
Indiana	266.29	40,006	37	58
Illinois	319.05	64,076	39	57
Iowa	252.26	49,883	27	38
North Dakota	52.22	39,551	46	61
South Dakota	52.37	41,610	34	45
Montana	36.95	71,593	52	66
Idaho	127.25	48,114	35	52
Wyoming	23.89	72,492	47	60
Colorado	55.43	58,417	42	60
Nevada	37.99	107,840	43	77
Washington	148.74	44,018	22	51
Oregon	93.80	41,684	23	50

1/ Based on preliminary releases of the Bureau of the Census.

About 160,000 farms and parcels of land totaling nearly 27 million acres were involved in voluntary and estate sales in the year ended March 15, 1960. The total sale value of these transfers amounted to about $3.2 billion, or an average of about $20,000 per transfer. The average sale was 166 acres, well below the average acreage per farm because many farms are made up of two or more ownership units. Nearly a third of all properties sold were parcels and tracts of land that did not represent complete operating units.

The rate of voluntary transfers at 30.7 per 1,000 farms in the year ended March 15, 1960, was 2 percent less than that in the previous year and the lowest since 1939-40. The peak rate, nearly double that in recent years, occurred in 1944 and 1945. The rate of farm foreclosures, including assignments to avoid foreclosures, bankruptcies, and related defaults was 1.6 farms per 1,000, or a national total of about 6,500 such transfers. The rate was the same as for the previous year and about the same as has prevailed since 1944. There have been practically no transfers of title to land sold for delinquent taxes since the early forties.

Further information concerning farm real estate transfers in 1959-60 was obtained from a sample of about 7,000 sales reported in the March 1960 market survey 1/.

As in previous years, actual sales prices show a wide range, both among areas and for different grades of land within an area. Sales prices continue to be highest in the eastern Corn Belt, with lands rated as "good" selling for an average of $434 per acre (table 3). "Poor" land in the same area averaged $144 per acre. Prices of $500 or more per acre are not uncommon in east-central Illinois and in other local Corn Belt areas with top-grade land. However, local reports last winter and early spring indicated that prices above $500 per acre were less frequent than a year or so ago. Choice irrigated land in the Mountain States is currently priced at the $300 to $400 level.

The highest prices for land for strictly agricultural purposes are reported for orchards and vineyards in California. In March 1960, avocado groves averaged $4,750 per acre, followed by valencia and navel oranges at $3,500. Florida citrus groves range between $2,000 and $2,500 per acre. The average value of all irrigated land in California, including that used for field crops (truck crops, cotton, sugar beets, rice, beans, and so on) was about $1,300 per acre.

Little difference exists between average sales prices for tracts and parcels of land to be added to existing farms and prices for complete farms. As parcels of land sold for farm enlargement often have no buildings, one

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1/ These surveys have been directed to farm real estate dealers and other local reporters annually since 1926. In addition to reporting on general market conditions, they also report considerable information about individual sales with which they are familiar.

Table 3.- Sales of farm real estate: Average price per acre for sales for farm enlargement, and for all sales by quality of land, selected type-of-farming areas, 1960 1/

Area	All sales	Average price per acre of-				
		Good land	Average land	Poor land	All land sold	Land bought for farm enlargement
	Number	Dollars	Dollars	Dollars	Dollars	Dollars
Northeast dairy---	384	312	121	92	185	161
Lake States dairy--	580	213	150	88	172	182
General farming----	892	182	96	60	116	143
Eastern Corn Belt--	767	434	275	144	328	345
Western Corn Belt--	1,410	261	155	107	183	176
Spring wheat-------	364	63	43	16	42	41
Winter wheat-------	411	100	85	57	88	86
Eastern cotton-----	210	119	88	43	106	100
Central cotton-----	235	161	110	50	117	117
Western cotton-----	354	142	97	61	110	116
Northern range livestock---------	393	77	53	25	57	63

1/ Based on a sample of sales of farm property reported by farm real estate reporters in the March 1960 survey. Most of the sales probably took place during the 6 months preceding the date of the survey.

might expect prices somewhat lower than for whole farms. But parcel sales are of smaller average acreage than are sales of complete farms, and prices average somewhat higher for small tracts. Also, competition among nearby farmers for small tracts is often keen, and prices can be bid up higher than those for complete farm units because of their marginal contribution to farm income. 2/

Because the purchase of land for farm enlargement has become the dominant sector of the total land market in many commercial farming areas, prices paid for tracts to be added to existing farms tend to set the general level of prices for all land sold. Thus, prices for complete farms will approximate those for parcels because larger units can be divided into tracts more suitable for enlargement purposes.

Farmers are Major Class of Buyers

About 63 percent of the purchases in 1959-60 were made by active farmers, compared with about 60 percent in each of the 2 previous years

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2/ For further analysis of this point, see special article beginning page 23.

(table 4). The downward trend in the proportion of all purchases made by tenants continued, reflecting in part the general decline in number of farms operated by tenants. Nonfarmers represented a slightly smaller proportion of all buyers in 1959-60 than a year earlier. The majority of these individuals were local businessmen and other nonfarmers living in the same county in which they bought land. Other studies have shown that a substantial proportion of these persons had been reared on farms or had been farm operators at some time. About a third of the nonfarmer buyers (12 percent of all buyers) were classed as absentee, as they did not live in the same county or in the county adjoining the one in which the land was located.

Regionally, the proportion of all buyers who were owner-operators ranged from a low of 40 percent in the Northeast (with a correspondingly high proportion of nonfarmer buyers) to a high of 61 percent in the Northern Plains (table 5). Tenants made a fifth or more of the purchases in the Lake States, Corn Belt, Northern Plains, and Mountain Region. Nonfarmers accounted for about this proportion of the purchases in the Northeast and the Southeast.

Table 4.- Farm real estate transfers: Percentage distribution by type of buyer and seller, United States, years ending March 1, 1955-60 1/

Type of buyer or seller	1955	1956	1957	1958	1959 2/	1960
	Percent	Percent	Percent	Percent	Percent	Percent
Buyer:						
Tenant	24.1	21.7	19.9	20.0	18.4	16.2
Owner-operator	38.7	37.9	39.9	39.8	41.4	46.9
Retired farmer	4.4	4.9	4.3	5.2	4.0	3.1
Nonfarmer	32.8	35.5	35.9	35.0	36.2	33.8
Total	100.0	100.0	100.0	100.0	100.0	100.0
Seller:						
Active farmer	53.9	51.6	50.7	47.1	38.1	49.8
Retired farmer	15.8	17.0	18.2	19.7	19.7	12.8
Estate	14.9	16.1	15.3	17.0	15.6	10.8
Lending agency, county, State, or Federal government	.8	1.1	.7	1.0	.5	.6
Other 3/	14.6	14.2	15.1	15.2	26.1	26.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

1/ Weighted by the estimated total number of transfers at the farm production region level.
2/ Revised.
3/ Primarily nonfarmers.

Table 5.- Farm real estate transfers: Percentage distribution by type of buyer, by regions, year ending March 1, 1960 1/

Region	Type of buyer					Total
	Farmer		Nonfarmer			
	Tenant	Owner-operator 2/	Local	Absentee 3/	Other 4/	
	Percent	Percent	Percent	Percent	Percent	Percent
Northeast	18	40	21	12	9	100
Lake States	27	46	13	9	5	100
Corn Belt	21	48	15	11	5	100
Northern Plains	23	61	9	5	2	100
Appalachian	9	58	15	11	7	100
Southeast	7	46	22	14	11	100
Delta States	10	51	15	15	9	100
Southern Plains	9	54	18	16	3	100
Mountain	21	54	11	9	5	100
Pacific	14	49	14	18	5	100
United States	16	50	16	12	6	100

1/ Based on sales reported in a March survey.
2/ Includes a small number of purchases by retired farmers.
3/ Not living in same or adjoining county.
4/ Includes sales not classified as to buyer.

Increase in Proportion of Sales by Farmers

Active and retired farmers together made 63 percent of the sales in 1959-60, compared with 58 percent in 1958-59. The proportion made by active farmers (50 percent) was sharply higher than in the previous year, but the proportion made by retired farmers was down, as was the proportion resulting from settlement of estates. Nonfarmers made the same proportion of the sales as a year earlier, but appreciably more than in 1955-58. On the basis of numbers, the proportion sold by farmers was about the same as the proportion bought, but nonfarmers continued to buy more frequently than they sold.

A slight increase in the relative importance of farmers as sellers is evident in most regions. Farmers sold half or more of all tracts in each region, with the proportion at two-thirds or more in the Lake States, Mountain, and Pacific Regions (table 6). Nonfarmers made a third or more of the sales in the Southeast and Delta Regions.

Table 6.- Farm real estate transfers: Percentage distribution by type of seller, and by regions, year ending March 1, 1960 1/

Region	Type of seller					Total
	Active farmer	Retired farmer	Estate	Local nonfarmer	Absentee owner 2/	
	Percent	Percent	Percent	Percent	Percent	Percent
Northeast	52	12	10	15	11	100
Lake States	56	16	8	10	10	100
Corn Belt	44	14	15	13	14	100
Northern Plains	47	14	16	9	14	100
Appalachian	47	10	16	15	12	100
Southeast	49	9	8	21	13	100
Delta States	48	13	7	16	16	100
Southern Plains	48	12	9	9	22	100
Mountain	56	12	7	12	13	100
Pacific	53	13	7	13	14	100
United States	50	13	11	13	13	100

1/ Based on sales reported in a March survey.

2/ Includes a small number of sales by lending agencies, county, State, or Federal governments.

Upward Trend in Purchases for Farm Enlargement Continues

Purchases of land to be added to existing farms has absorbed an increasing proportion of all transfers for the last 10 years or so. In 1959-60, 45 percent of all transfers were for farm enlargement, compared with an average of 26 percent in 1950-54 (table 7). More than half of the transfers occurring in the Corn Belt and wheat areas were for this purpose. Although the proportion is substantially lower in the dairy, general farming and cotton areas, the increase in these regions also has been pronounced.

Nearly a fourth of all transfers reported in 1959-60 involved tracts of land sold from existing farms and added to other farms (table 8). An additional 20 percent of the transfers were complete farms before sale, but after sale, they became parts of other farms. Only two-fifths of all sales in 1959-60 were complete farms before sale and remained so after sale, whereas in 1954-55, more than half of the sales were of this type.

Table 7.- Farm purchases: Percentage for farm enlargement, selected major type-of-farming areas and United States, average 1950-54 and annual 1956-60 1/

Type-of-farming area	Average 1950-54	1956	1957	1958	1959	1960
	Percent	Percent	Percent	Percent	Percent	Percent
Northeast dairy	14	14	18	24	22	21
Lake States dairy	16	21	26	22	28	31
General farming	19	20	23	25	26	29
Eastern Corn Belt	29	41	45	46	50	55
Western Corn Belt	28	38	43	46	47	52
Wheat areas	48	57	64	65	66	69
Western cotton	30	34	43	49	59	46
Western range livestock	31	38	39	48	48	47
United States 2/	26	33	38	40	42	45

1/ Based on sales reported in March surveys. Most of the sales probably occurred during the 6 months preceding the date of the survey.

2/ Includes additional areas not listed.

FINANCING LAND TRANSFERS

Nationally, the proportion of voluntary transfers that were credit-financed has remained unchanged at 67 percent since 1955-56. Slight year-to-year variations have occurred in the various regions, but none shows a significant trend (table 9). More important, however, has been the trend toward substitution of installment land contracts for conventional mortgages in financing land transfers. The proportion of all transfers financed by land contracts has about doubled in the last 10 years, and in 1959-60, contracts were used in a fourth of all transfers (fig. 4). The proportion was highest (42 percent) in the Lake States, and lowest in the Southeast, where the deed of trust and vendor's lien serve similar functions in low-equity financing.

The sharp increase in the use of contracts in the Corn Belt is especially significant because this area has long provided institutional lenders, particularly insurance companies, with the bulk of their farm mortgage investments. With sellers increasingly assuming the role of creditors, the region has become less dependent upon investment funds from outside sources. Consequently, interest rates and repayment terms have become less responsive to central money markets and to the lending policies of a relatively few agencies.

The amount of debt incurred in relation to the purchase price has crept slowly upward in recent years and in 1959-60, it stood at 65 percent. Some of the rise can be attributed to the increased use of contracts in which the downpayment is typically 20 to 30 percent of the purchase price, or about half

Table 8.- Farm real estate transfers: Percentage distribution by method of operation of tract before and after sale, United States, 1955-60 1/

Type of operation	1955	1956	1957	1958	1959	1960
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Single farm before sale, bought for operation as-						
A single farm	55	52	48	45	43	42
Part of another farm	14	15	18	18	19	20
A part-time farm	2	3	3	3	3	3
Total	71	70	69	66	65	65
Part of another farm before sale, bought for operation as-						
A single farm	6	6	6	7	5	5
Part of another farm	17	17	19	20	22	23
A part-time farm	1	1	1	1	2	2
Total	24	24	26	28	29	30
Part-time farm before sale, bought for operation as- 2/						
A single farm	1	2	1	1	1	1
Part of another farm	1	1	1	1	1	1
Part-time farm	3	3	3	4	4	3
Total	5	6	5	6	6	5
All farms transferred	100	100	100	100	100	100

1/ Based on sales reported in March surveys. Most sales probably occurred during the 6 months preceding the date of the survey.

2/ The data for properties that were part-time farms before sale are biased downward because reporters are instructed to include only those properties of 10 acres or more used primarily for farming purposes. This limitation excludes many part-time farms.

that required by most institutional lenders. Sellers also have increasingly accepted high debt-ratio mortgages, as well as contracts, in order to facilitate transfers. Taking back a mortgage or contract avoids the problem of finding an equally suitable alternative investment for the proceeds of a sale and insures the seller a rate of interest well above that of government bonds or savings accounts. In a period of rising market values of farm real estate, risks of loss or defaults that would require foreclosure actions have been at a minimum.

Sellers Continue to be Major Source of Credit

About two-fifths of all credit transfers in the last 4 years have been financed by the seller (table 10). The amount of credit extended in relation

Table 9.- Credit-financed farm purchases: Percentage financed by specified lenders, and amount of credit extended as percentage of purchase price, United States, years ending March 1, 1956-60 1/

Source of credit	Percentage of credit-financed purchases					Credit as percentage of purchase price 2/				
	1956	1957	1958	1959	1960	1956	1957	1958	1959	1960
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Sellers (individuals)--	37	41	43	43	42	68	71	71	71	71
Commercial banks--------	19	18	17	18	14	53	54	56	59	58
Insurance companies-----	18	16	15	14	16	49	52	54	54	55
Federal land banks------	10	10	9	10	11	52	51	50	55	55
Individuals other than sellers-----------	6	5	7	6	8	60	61	65	61	59
Two or more lenders-----	3	4	2	2	2	65	74	70	63	74
Other sources-----------	7	6	7	7	7	71	71	70	73	71
Total or average	100	100	100	100	100	61	63	64	64	65

1/ Most of the sales probably occurred in the preceding 6 months.

2/ Some purchasers of farm real estate offer land they already own as additional security for the land being purchased. Thus, the amount of debt as a percentage of the purchase price for purchases reported here is higher than it would be if the debt were related to the total market value of the land offered as security.

to the purchase price also has been highest for this lender group because most of the contract sales are made by individuals. For the last 4 years, sellers who provided financing have received an average downpayment of 29 percent. This is near the maximum (30 percent) permissible for special treatment of capital gains under present Federal income tax regulations.

Insurance companies ranked second as a source of mortgage credit in 1959-60, financing 16 percent of all credit transfers. In previous years, commercial banks accounted for a slightly larger proportion of the total than did insurance companies. Mortgage funds obtained from the Federal land banks were used to finance 11 percent of the credit purchases of land in 1959-60, about the same proportion as in previous years. Loans obtained from both insurance companies and the Federal land banks averaged 55 percent of the purchase price, the lowest among the various classes of lenders.

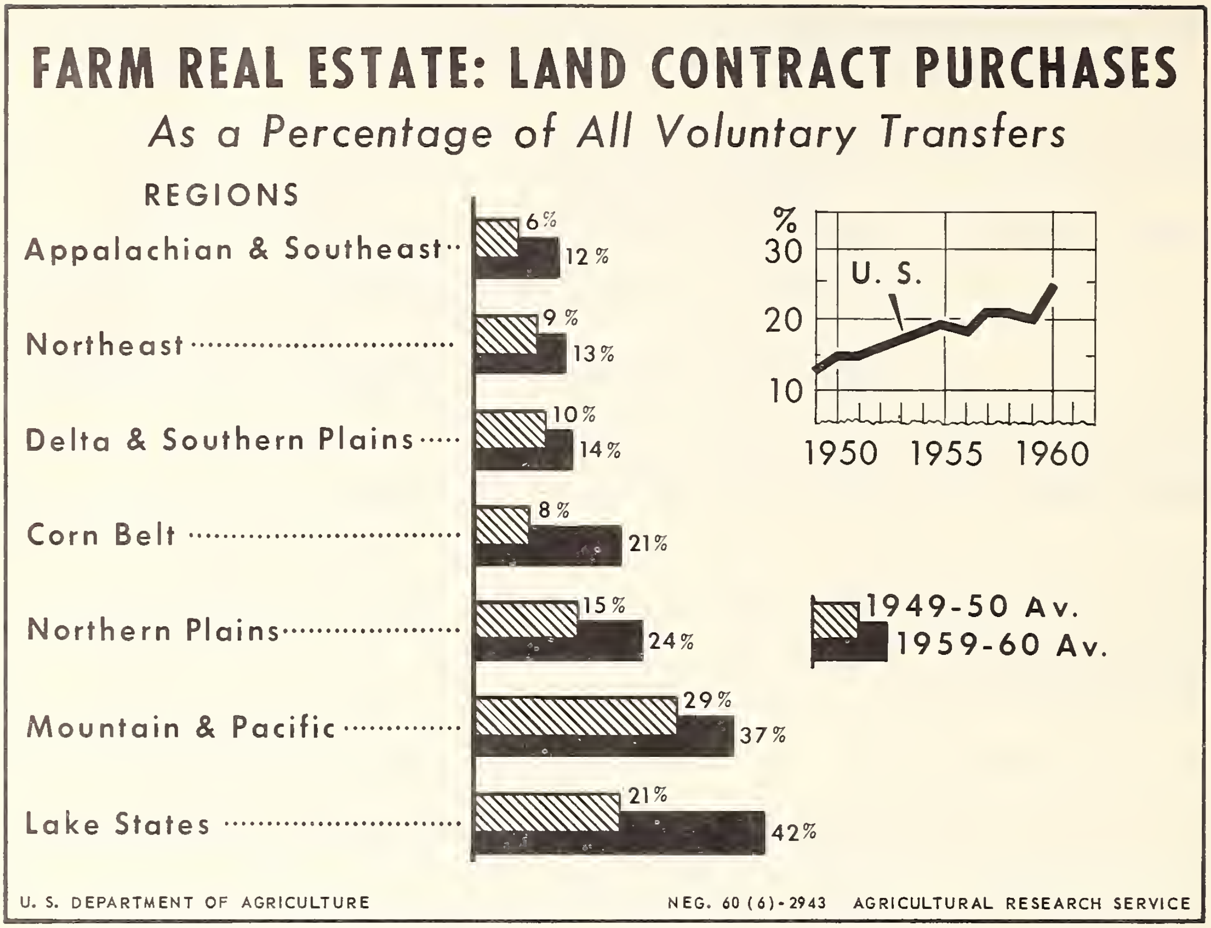

Figure 4

Table 10.- Credit-financed transfers: Proportion of all sales, and ratio of debt to consideration, farm production regions and United States, years ending March 1, 1956-60 1/

Farm production region	Proportion of all sales credit-financed					Ratio of debt to consideration				
	1956	1957	1958	1959	1960	1956	1957	1958	1959	1960
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Northeast	72	74	70	72	71	63	65	63	67	64
Corn Belt	70	70	71	68	71	55	56	59	59	60
Lake States	78	79	78	77	77	62	67	69	65	66
Appalachian	58	56	53	55	53	60	63	60	61	65
Southeast	60	59	57	59	65	70	69	66	69	68
Delta States	64	62	66	64	65	61	66	64	68	67
Southern Plains	70	66	67	63	60	58	62	65	60	65
Northern Plains	58	56	58	59	60	58	58	62	62	64
Mountain	73	72	76	73	74	67	66	69	70	73
Pacific	72	78	77	77	74	64	63	65	68	70
United States	67	67	67	67	67	61	63	64	64	65

1/ Based on sales of farm property reported by farm real estate dealers and others in March surveys. Most of the sales probably took place during the 6 months preceding the date of survey.

Land Contracts Have Higher Debt Ratios, Shorter Terms than Mortgages

Downpayments on purchases financed by land contracts averaged 27 percent nationally and ranged between 24 and 33 percent in the various regions (table 11). Debt ratios for contract and mortgage-financed transfers differed less in the southern regions, where only a fifth of the credit purchases were financed by contract, than in the Corn Belt, Lake States, and Northern Plains. A large part of the mortgage funds used to finance land purchases in the latter three regions is obtained from life insurance companies and the Federal land banks. The average loan made by these agencies was about 55 percent of the purchase price.

The shorter terms specified in land-purchase contracts suggest that contracts are often used primarily as a means of building up the buyer's equity to the level required for conventional mortgage financing. The larger debt remaining on a typical contract would require substantially higher payments than would be required with a mortgage if the full purchase price were to be repaid in the period specified in the contract. The terms of a contract can specify that the remaining unpaid balance can be refinanced by a conventional mortgage when a specified percentage of the purchase price

Table 11.- Selected characteristics of sales financed by land contracts and mortgages, by regions, year ended March 1, 1960

Region	Land contracts			Mortgages	
	As percentage of all credit transfers	Debt ratio 1/	Average term	Debt ratio 1/	Average term
	Percent	Percent	Years	Percent	Years
Northeast	21	71	13	63	14
Lake States	59	73	12	55	15
Corn Belt	36	74	13	53	16
Northern Plains	40	72	12	55	17
Appalachian	21	67	14	62	9
Southeast	20	70	13	70	11
Delta States	28	68	10	66	12
Southern Plains	23	73	15	59	16
Mountain	70	73	13	66	15
Pacific	33	76	13	71	14
United States	38	73	13	60	15

1/ Debt incurred as a percentage of purchase price.

has been paid. Thus, a land contract with a term of 10 years, followed by a 20-year mortgage would have the effect of extending the total term for repayment to 30 years.

Current Credit Situation

The supply of farm mortgage loan funds has eased since early 1960, but interest rates, which rose to 6 percent for nearly all loans last fall and early spring, have remained at this level despite the sharp drop in central money markets in recent months. New mortgage loans closed by three major classes of institutional lenders (life insurance companies, Federal land banks, and Farmers Home Administration) in the second quarter of 1960 totaled 19 percent less than in the same period of 1959. For the first 6 months of 1960, the loan volume was down 14 percent from the previous year.

Less than a third of the dollar volume of farm mortgage loan commitments made by 20 leading life insurance companies in recent quarterly periods was for the purpose of financing land purchases. At the same time, the proportion of all new funds loaned to be used for refinancing existing mortgages or other indebtedness has increased steadily. In the second quarter of 1960, such loans accounted for 50.5 percent of all funds committed. Purposes of loans made by the Federal land banks have shown a similar trend, although the proportion used to finance land purchases has been lower than that of life insurance companies.

All three classes of institutional lenders report an increase in the number of mortgages either in process of foreclosure or with interest payments overdue. Although such mortgages represent only a small fraction of all mortgages they hold, the increase in numbers and dollar amounts has been substantial. Repayment rates as a percentage of total debt outstanding also have declined from the relatively high rates of a year or so ago.

Total outstanding farm mortgage debt was estimated at $12.3 billion on January 1, 1960, about 9 percent more than a year earlier. All lender groups increased their investments in farm mortgages, but loans held by the Federal land banks increased somewhat more (13 percent) than did loans held by life insurance companies, which increased 6 percent.

Trends in deposits in country banks provide some indication of the financial position of rural communities. Average daily total deposits in July 1960 for 20 leading agricultural States were 2 percent below those in the same period in 1959. 3/ They were down 4 percent in the Corn Belt and Great Plains States but were above a year earlier in the Southeast and the Delta States. Time deposits continued to increase in all States, however, with gains of 8 percent or more in the Southeast and the Delta States and in Texas and Oklahoma. The smallest increase, less than 1 percent, occurred in the Lake States.

3/ Based on deposits of member banks of the Federal Reserve System located in places of less than 15,000 population.

Table 12.- Farm real estate: Index numbers of average value per acre, by States and farm production regions, selected dates, 1940 to 1960 1/

(1947-49=100)

State and region	1940	1950	1955	1958	1959			1960	
					March	July	Nov.	March	July
Maine	69	95	104	118	125	129	133	131	133
New Hampshire	67	97	105	119	129	134	138	137	135
Vermont	58	101	104	120	129	133	138	137	135
Massachusetts	74	99	106	126	137	143	149	147	143
Rhode Island	66	101	108	133	145	150	156	155	154
Connecticut	65	100	111	138	149	152	157	155	157
New York	59	105	119	137	146	149	149	149	146
New Jersey	62	103	132	168	183	189	194	190	194
Pennsylvania	58	102	134	163	172	175	178	181	179
Delaware	55	98	130	163	177	184	186	184	181
Maryland	50	99	136	167	179	185	187	185	180
Northeast	60	102	123	147	158	161	164	164	162
Ohio	46	101	141	171	178	179	180	180	180
Indiana	44	103	147	173	182	185	186	186	183
Illinois	50	108	142	169	182	184	183	182	181
Iowa	51	108	133	147	157	158	162	161	159
Missouri	50	106	130	156	169	169	175	172	172
Corn Belt	49	106	139	162	173	174	176	175	174
Michigan	46	100	133	158	170	175	173	173	166
Wisconsin	58	101	113	133	142	142	143	144	139
Minnesota	55	109	135	171	181	185	185	182	179
Lake States	54	104	127	154	165	168	168	167	162
Virginia	48	101	135	161	174	172	177	178	180
West Virginia	58	95	110	132	142	142	145	145	147
North Carolina	43	106	140	161	170	171	175	173	174
Kentucky	42	102	115	133	145	147	152	153	153
Tennessee	42	103	118	136	150	151	154	156	159
Appalachian	44	103	126	146	158	159	163	163	164
South Carolina	43	97	121	143	155	157	162	163	166
Georgia	45	99	138	171	188	192	197	201	201
Florida	57	97	141	213	245	254	254	252	259
Alabama	47	101	125	152	169	169	172	174	172
Southeast	48	99	132	171	191	195	198	199	201

See footnotes at end of table.

-Continued

Table 12.- Farm real estate: Index numbers of average value per acre, by States and farm production regions, selected dates, 1940 to 1960 [1] Con.

(1947-49=100)

State and region	1940	1950	1955	1958	1959			1960	
					March	July	Nov.	March	July
Mississippi	46	106	137	169	186	187	189	191	191
Arkansas	40	105	126	154	163	[2]165	166	170	174
Louisiana	57	105	138	174	192	192	197	198	201
Delta States	46	104	132	163	177	[2]178	180	183	185
Oklahoma	50	108	136	155	168	170	172	177	176
Texas	55	102	137	158	169	170	171	176	174
Southern Plains	54	103	137	157	169	170	171	176	174
North Dakota	48	107	132	162	178	177	177	182	180
South Dakota	47	111	139	156	171	170	170	173	171
Nebraska	47	104	134	146	159	159	157	160	157
Kansas	45	106	129	147	156	157	157	160	156
Northern Plains	46	107	133	150	162	162	162	165	162
Montana	43	104	146	171	183	188	189	191	195
Idaho	43	107	142	158	169	174	175	176	175
Wyoming	40	100	123	128	138	140	142	145	142
Colorado	37	104	128	130	138	143	143	145	146
New Mexico	36	107	136	141	149	156	156	157	159
Arizona	40	99	137	157	168	173	177	176	173
Utah	49	107	137	142	150	152	157	158	154
Nevada	49	99	139	153	164	166	169	173	171
Mountain	41	104	136	148	158	162	163	165	165
Washington	45	101	137	156	167	171	175	179	179
Oregon	41	99	128	144	152	[2]153	156	159	154
California	42	94	128	158	172	[2]179	179	182	191
Pacific	42	96	130	156	168	[2]174	175	179	185
United States	49	103	133	156	168	[2]170	171	173	172

[1] All farmlands with improvements as of March 1, except as indicated.
[2] Revised.

Table 13.- Farm real estate: Index numbers of average value per acre, by States and geographic divisions, selected dates, 1920 to 1960 1/

(1912-14=100)

State and division	1920	1930	1950	1958	1959			1960	
					Mar.	July	Nov.	Mar.	July
Maine	142	124	132	163	173	179	185	182	184
New Hampshire	129	111	136	167	181	188	194	193	190
Vermont	150	123	176	209	224	231	240	238	236
Massachusetts	140	131	152	193	210	219	227	224	219
Rhode Island	130	134	184	243	266	274	285	284	281
Connecticut	137	140	191	264	285	291	301	298	301
New England	140	127	157	198	214	221	228	226	225
New York	133	103	152	198	212	216	215	215	212
New Jersey	130	125	194	317	346	356	366	360	367
Pennsylvania	140	107	157	252	266	270	275	280	276
Mid. Atlantic	136	106	157	231	247	252	254	256	253
Ohio	159	90	167	285	295	298	300	299	299
Indiana	161	80	174	293	308	312	315	314	310
Illinois	160	91	162	254	273	275	273	273	271
Michigan	154	121	198	311	337	346	342	342	329
Wisconsin	171	117	145	191	204	204	206	207	201
E. N. Central	161	96	166	261	278	281	281	280	276
Minnesota	213	133	169	265	280	288	287	282	278
Iowa	213	113	158	215	229	232	237	236	232
Missouri	167	92	124	183	198	198	205	202	202
North Dakota	145	95	115	175	192	190	190	196	194
South Dakota	181	93	97	136	149	148	149	150	149
Nebraska	179	113	130	182	198	198	196	200	195
Kansas	151	113	169	233	248	249	249	254	248
W. N. Central	184	109	142	203	218	219	221	222	219
Delaware	139	111	158	262	286	296	300	296	292
Maryland	166	123	199	335	359	372	376	371	361
Virginia	189	134	235	375	405	399	412	413	419
West Virginia	154	105	139	194	209	209	213	214	217
North Carolina	223	158	341	518	547	552	563	558	559
South Carolina	230	104	203	298	324	329	339	339	347
Georgia	217	100	181	313	344	350	360	367	366
Florida	178	172	226	497	572	592	592	589	604
S. Atlantic	199	127	224	371	404	410	418	417	421

See footnotes at end of table. -Continued

Table 13.- Farm real estate: Index numbers of average value per acre, by States and geographic divisions, selected dates, 1920 to 1960 1/ - Con.

(1912-14=100)

State and division	1920	1930	1950	1958	1959			1960	
					Mar.	July	Nov.	Mar.	July
Kentucky	200	127	272	358	388	393	407	410	409
Tennessee	200	123	265	350	385	390	395	401	409
Alabama	177	143	260	391	433	434	441	446	441
Mississippi	218	122	244	391	429	432	436	440	441
E. S. Central	199	128	263	368	404	408	416	420	422
Arkansas	222	141	247	364	384	2/389	391	400	409
Louisiana	198	132	221	366	404	404	416	419	425
Oklahoma	166	127	202	289	315	319	322	332	329
Texas	174	138	184	285	305	307	308	318	314
W. S. Central	177	136	192	294	316	318	320	329	327
Montana	126	82	132	218	233	239	240	243	248
Idaho	172	130	230	341	365	376	377	380	378
Wyoming	177	111	183	234	252	257	259	265	260
Colorado	141	89	161	202	215	221	221	224	226
New Mexico	144	112	232	307	325	339	339	342	345
Arizona	165	139	218	347	372	383	393	389	383
Utah	167	125	179	238	251	255	263	264	258
Nevada	135	98	132	205	220	222	226	232	229
Mountain	148	103	175	249	265	273	275	278	278
Washington	139	113	210	325	348	357	363	372	371
Oregon	129	111	176	254	268	2/271	277	282	272
California	167	164	220	370	402	2/419	419	427	449
Pacific	157	147	212	345	373	2/386	388	396	409
United States	173	114	174	262	282	2/286	288	291	289

1/ All farmlands with improvements as of March 1, except as indicated.
2/ Revised.

FARM ENLARGEMENT AND ENTRY FACTORS IN THE LAND MARKET

By
Melvin G. Blase [1]

The farm real estate market has shown unusual behavior since 1951. Market values continued to rise despite the downward trend in net farm income, except for 1958, and interest rates on farm mortgages have risen. At first glance, these events seem to be illogical. However, analysis of some of the principal influences affecting land prices helps to explain this apparent paradox.

Two of the chief forces affecting the demand for farm real estate are (1) the demand for land for farm enlargement, which has increased in recent years, and (2) the demand for land for entry into and continuation in, agriculture. Unpublished results of research conducted at Iowa State University for typical Corn Belt farms were used to analyze the economic basis for the demand for land for farm enlargement. The demand for land for entry into agriculture has been analyzed for the State of Iowa.

The Demand for Land for Farm Enlargement

The strongest single factor that has forced up the price of farmland in commercial farming areas has been the demand for land for farm enlargement. Part of the pressure for farm enlargement comes from the desire by farmers to increase income by spreading the cost of existing and new equipment and other technologies over larger acreages. In the year ended March 1960, 45 percent of all farm sales in the United States involved farms or tracts of land to be added to existing farms.

In the western Corn Belt, the proportion was even higher - 52 percent. This gives some insight into the quantitative dimension of this phase of the demand for land. But what about its intensity dimension? That is, how great are the economic pressures in this demand? How likely is it to continue in the future?

In a recently completed study evaluating production-control policies, the value of land for farm enlargement was calculated in order to provide insight into the cost to the Federal Government of renting land in carrying out a land-retirement program. [2] Here is the procedure followed.

Maximum profit plans were calculated for typical 160-acre farms in three soil association areas in Iowa. The optimum plans, which were calculated by linear programming (a mathematical form of budgeting), were designed to approximate actual farm conditions as nearly as possible, assuming that the operator organized his farm business to make as much profit as possible. Assumptions made were that the operator had average efficiency in crops and livestock production; that a low level of fertilizer was used; that 1956 farm commodity prices prevailed; [3] that operating capital was limited; and that labor available on the farms was limited. These assumptions approximate actual conditions on farms in the areas selected. After the optimum plans had been devised for the 160-acre farms, they were revised to include an additional 80 acres of land, with all resources on the farms other than land remaining unchanged.

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[1] Agricultural Economist, Farm Economics Research Division, U. S. Agricultural Research Service, Ames, Iowa; now on military leave.

[2] Paulsen, Arnold, Evaluation of Production Control Policies with Respect to Agricultural Adjustment, Thesis (Ph.D.), Dept. of Econ., ISU, Ames, Iowa, (publication in process).

The situation examined in the Marshall Soil Association is typical of farms on hilly loessial soils. The Clarion-Webster soils, although glacial, are highly productive, and farming situations on these soils are similar to those on many alluvial soils. The Shelby-Grundy-Haig soils have been formed from glacial till and loess.

Table 1 shows the optimum plans for typical farms in these three soil associations areas. Note the difference in cash income on these typical farms when they are increased from 160 to 240 acres. Since farm operators utilized underemployed resources other than land when they operated increased acreages, many of them might be expected to impute the bulk or all of the difference in cash income to land. Furthermore, the conclusion can be drawn that some buyers are allocating returns from other inputs to land.

If the increase in cash income from farm enlargement is capitalized, an estimate of the maximum price per acre that is justifiable from an economic viewpoint is obtained. Some rough comparisons can be made for the typical farm by contrasting these estimated prices with the estimates of 1956-58 prices of land made by a sample of real estate brokers (table 2). The north-central grain area is largely made up of Clarion and Webster soils, but both the western livestock and southern pasture areas include other soil associations besides Marshall and Shelby-Grundy-Haig. From an economic productivity standpoint, however, the soil associations for which typical farms were programmed would rank about medium among these soils within the western and southern areas. The market price of medium land in the western livestock area seems to be at or near the level of the price that could be justified for farm enlargement. If a more refined analysis were undertaken, one might find that pressure remains on the prices of high or low quality land for enlargement purposes in the area. In the north-central grain areas, market prices of land are considerably below the estimated value for farm-enlargement purposes. Consequently, considerable upward pressure on prices may remain. Similarly, the market price of land in the southern pasture region of Iowa is less than the estimated farm-enlargement value. It seems, therefore, that for farms that are around 160 acres in size and have nonland resources that can be used to operate additional land, considerable economic incentive remains for buying

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[3] The price assumed for corn was somewhat higher and that assumed for cattle was somewhat lower than the prices that now prevail. However, these differences in prices would not alter greatly the farm plans if they were revised to consider present prices.

Table 1.- Optimum plans for typical 160-acre livestock farms in Iowa, 3 soil association areas, and for the same farms with land increased to 240 acres

Item	Unit	Marshall		Clarion-Webster		Shelby-Grundy-Haig	
		160 acres	240 acres	160 acres	240 acres	160 acres	240 acres
Livestock:							
Beef cows	Number	--	--	--	9	13	7
Poultry	Hen	100	--	--	--	100	--
Dairy cows	Number	--	--	--	--	5	5
Dry lot fed cattle	do.	6	12	--	--	--	--
Pasture fed cattle	do.	18	10	22	--	--	--
Hogs	Litter	19	29	31	30	15	19
Corn acreage	Acre	62	87	55	98	34	51
Permanent pasture	do.	15	56	10	15	37	56
Corn production	Bushel	2,193	3,148	3,838	6,181	1,653	2,480
Cash income 1/	Dollar	4,145	5,201	7,480	10,188	3,465	4,358
Cash income per acre 1/	do.	25.91	21.67	46.75	42.45	21.66	18.16
Operating capital	do.	6,800	6,800	7,700	7,700	6,421	6,421
Investment capital	do.	36,084	52,164	53,745	75,345	17,690	24,730
Labor used	Hour	1,934	2,395	2,105	2,373	1,975	2,268

1/ Net income after cash operating expenses, with no return imputed to operator and family labor.

land at current prices in order to enlarge the farm businesses.

Obviously, many farms are either considerably smaller or larger than 160 acres. To gain an insight into the farm-enlargement potential on units of varying sizes, the opportunities for increased economic efficiency through farm enlargement were examined. Analysis of the typical 160-acre farms shows that one of the advantages of increasing farm size from 160 to 240 acres is the more effective use of machinery and equipment, by which costs per unit of production are reduced. Information needed to make comparable estimates for farms of other sizes is available in a report of a study designed to analyze farm sizes and costs in relation to farm machinery technology. 4/ In this study, cost curves were developed for eight combinations of farm machinery, taking into consideration the effect of untimeliness of operations.

4/ Krenze, R. D. Farm Size and Costs in Relation to Farm Machinery Technology. Dept. of Econ. and Soc., ISU, Ames, Iowa, 1959. Thesis (Ph.D.) [Unpublished.]

Table 2.- Net income from, and capitalized value of, medium grade land added to selected types of 160-acre farms in 3 areas in Iowa

Item	Western livestock (Marshall soils)	North-central grain (Clarion-Webster soils)	Southern pasture (Shelby-Grundy-Haig soils)
	Dollars	Dollars	Dollars
Cash income per acre from additional 80 acres allowing no return to labor	13.20	33.85	11.16
Proportional return to additional labor 1/	10.03	29.45	9.49
Capitalized value of land, 6 percent discount rate:			
No return to labor	220.00	564.00	186.00
Proportional return to additional labor 1/	167.00	491.00	158.00
Estimated market value of medium grade land, 1956-58 2/	230.00	290.00	140.00

1/ A percentage of the additional cash income from the 80 acres equal to the increase in hours of labor used is allocated as a cost against land income.

2/ As reported by farm real estate brokers in November surveys.

In table 3, it can be seen that the minimum average cost per dollar of farm output is reached on an acreage considerably larger than the Corn Belt farm of average size. When a long-run average cost curve is fitted to these data (a curve based on the eight combinations of machinery considered and on current cropping techniques), it is apparent that minimum per unit cost is attained on approximately 680 crop acres. However, average total costs vary less than 2 cents per dollar of product between 400 and 800 crop acres. Although this is a rather wide range in size, considerably higher per unit costs are incurred in farms of less than 400 crop acres. These estimates were developed under the assumption of average weather. But this assumption underestimates the per unit costs over time because more field time than can be utilized is available in favorable years, whereas heavy losses result in years unfavorable to field operations. Further analysis indicated that long-run expected returns are maximized with about a third less land than was found to be optimum with average weather.

Prices of farm commodities, size, and kinds of machinery and capitalization rates are additional factors to be considered in determining optimum farm size. A plan was made for a typical farm in the Carrington-Clyde soil association area, where farms are similar to those found on many alluvial soils in the Midwest. In the plan, all factors except land were assigned

Table 3.- Costs per dollar of product for various machinery combinations with current cropping system and 1953-57 prices

Tractor and implement combination	Range in acreage with lowest average total cost	Minimum acreage for lowest average cost	Minimum average cost
	Acres	Acres	Dollars
2-plow; 2-row	0-210	240	$0.52
3-plow; 4-row	210-370	360	.47
4-plow; 4-row	370-430	400	.46
2 3-plow; 4-row	430-580	640	.45
3-plow, 4-plow; 6-row	560-800	680	.44
3-plow, 4-plow; 6-row and combine picker	800-960	760	.47
3-plow, 4-plow; 6-row and picker-sheller	None	760	.47

market rates. Through budgeting, land was allowed to vary so the effects of these various assumptions on farm size could be measured. Farm size is considered to be optimum when the residual return to land when capitalized is equal to the current market price of land. With a 3- and 4-plow tractor, plus 6-row machinery combination, the optimum farm size, at 1953-57 prices, would be slightly above 700 acres. However, if 1958 prices are assumed with the same machinery combination, optimum farm size is slightly less than 660 acres. The previous figures were developed using a 5-percent capitalization rate. If a 6-percent rate is used with 1958 farm commodity prices, optimum farm size decreases to slightly less than 400 acres. Possible alternative uses for capital within the farm are another limitation on farm size. As the amount of capital increases, its uses tend to move from crop production, to crop plus hog production, and finally to feeder cattle plus crop production. Consequently, a point is reached at which investments in livestock must be reduced in order to expand investments in land and machinery. Some of the factors mentioned tend to limit economic pressures on land prices for farm enlargement, but other factors may have the opposite effect. In the Krenze study, fertilizer use was limited to current crop practices. However, the research indicated that per unit costs would be decreased considerably with increased fertilizer use, hence tending to increase the acreage of the optimum size unit. Also, continuous production of corn would decrease significantly costs per unit of output. Finally, if it is assumed that farm operators impute to the additional land the returns of previously underemployed factors employed in enlarging the business, a much larger return per acre will be available for capitalization. Thus, the estimated value per acre will be considerably higher. This would result in maximum-profit operations of larger size than were indicated earlier.

Apparently, the demand for farmland for enlargement purposes has not yet been satisfied. In some particular situations, it might be shown that this pressure has run its course. But it seems that the pressure for farm enlargement will be nearly as strong in the market in the immediate future as it has been in the immediate past.

Increasing Farm Size Limits Farming Opportunities for Beginning Farmers

Farm families have long produced more male children than there are farms for them to operate. If they were all to become farm operators, the average size of farms would decline. With the strong pressures exerted by advancing technology for larger operating units, capital requirements for entry into agriculture have risen steadily and fewer farms are becoming available for beginning farmers. Those who have the financial resources to enter farming must compete with established operators who can realize greater net returns from similar tracts of land than can the beginning farmers. The relationship between size of farm and production costs per unit of output, as demonstrated in the preceding discussion, together with the generally stronger financial and credit position of established operators, points strongly to the need for an even greater rate of migration of farm youth to off-farm employment in the decades ahead.

What is the magnitude of the probable decline in the number of farms in the next 15 years, and how will this affect new farming opportunities? A recent study examined the probable imbalance between the supply of, and the demand for, future farming opportunities in Iowa. 5/ The results were expressed in terms of the proportion of male farm youths reaching 20 years of age in each 5-year period who could not expect to become farm operators because farms would not be available.

A number of assumptions were necessary in these projections, the most important of which concerns the probable increase in average size of commercial farms. After an allowance for some loss of farmland to nonfarm uses and a 50-percent increase in the number of part-time farms and rural residences, projection of past trends suggests that the number of commercial farms in Iowa will decline from 178,000 in 1954 to about 99,000 in 1975 (table 4). The average size of commercial farms will increase from 189 acres in 1954 to 338 acres in 1975. Estimates were then made as to the number of farms that will become available as a result of deaths, retirements, and migration from farming of present operators. The number of potential farm operators (male farm youths reaching age 20) was estimated also, taking into account birth and death rates and past rates of migration to nonfarm employment.

A comparison of the projected numbers of farming opportunities with the probable number of male farm youths coming into the labor force shows a widening gap in each 5-year period. In the period 1960-65, 43 percent

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5/ Joslin, K. H., Factors Affecting Future Farming Opportunities, Master's thesis, Iowa State University, 1958. [Unpublished.]

Table 4.- Estimated number of farms in Iowa, by type, 1975 compared with 1954

Year	Commercial farms 1/	Part-time farms	Rural residences	All farms
	Number	Number	Number	Number
1954	178,238	7,315	7,340	193,009
1975	98,600	11,000	11,000	120,600
Percentage change, 1954 to 1975	-45	50	50	-38

1/ Farms with gross incomes of $10,000 or more.

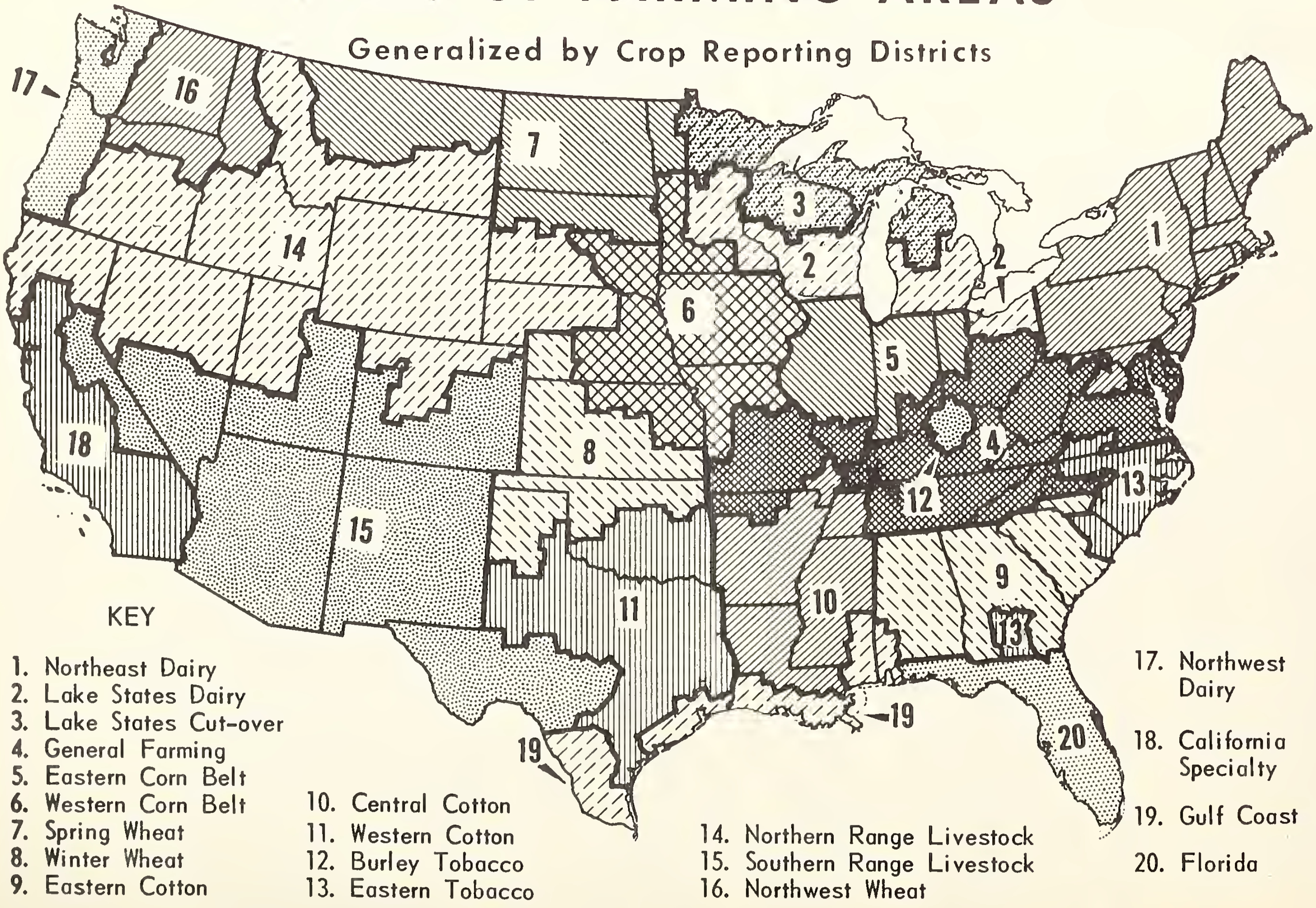
of Iowa farm youth will need to seek nonfarm jobs, and by 1970, the proportion will increase to 58 percent. For the period 1954-75, the number of farms becoming available was estimated to be only slightly more than half the number of farm youths who would be seeking farms to operate.

What are likely to be the effects on land values of these increasing pressures for entry into agriculture? Much will depend upon the rate at which farm youths move to other occupations. It is possible that nonagricultural employment may attract farm youths in sufficient numbers to prevent upward pressures on land values, but in the past, labor has not been sufficiently mobile in some areas to avoid this problem. The analysis for Iowa suggests that the demand for land from beginning farmers is likely to be an important factor in the land market in the future.

To summarize, many thousands of commercial farms in the Midwest are still below the optimum size required with presently known technology. Pressures to enlarge these farms to achieve lower unit costs, particularly for labor and machinery, have intensified the demand for additional land. This demand has helped to maintain and to increase market prices of land despite lower farm income and higher interest rates in recent years. Demand for land for farm enlargement also has tended to reduce the number of new farming opportunities and is likely to force an increasing proportion of male farm youths to seek employment in nonfarm jobs. The rate at which presently known technology is adopted and the development of new technology in the future, and the rate at which farm youth can find off-farm employment are likely to be key factors in the long-term trends in land prices.

TYPES OF FARMING AREAS

Generalized by Crop Reporting Districts



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